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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,127	09/09/2003	Yasutomo Goto	8015-1022	9212
466	7590	01/12/2005	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			SAINT SURIN, JACQUES M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,127

Applicant(s)

GOTO, YASUTOMO

Examiner

Jacques M Saint-Surin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to the amendment of 10/29/04.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukamoto (US Patent 4,856,326) in view of Barnes et al. (US Patent 6,270,817).

Regarding claims 1 and 7, Tsukamoto discloses a brittleness rating method of rating brittleness of a coating substance for an intended use (an apparatus capable of measuring adhesion forces of thin films whose thickness lie in the submicron range, see col. 2, lines 39-41) comprising the steps of:

causing (indenter 4, see: Fig. 2) a test film piece (specimen 1 which is coated with a thin film 1a, see; col. 4, lines formed by laminating a support with a coating substance to produce deformation (the indenter 4 is fitted to the tip of a piezoelectric actuator 4 to deform the specimen 1, see: col. 4, lines 27-29);

detecting acoustic emissions (indenter 4 senses an AE signal representative of destruction which occurs in the thin film or at the boundary between the thin film 1a and the substrate 1b of the specimen 1, see; col. 4, lines 29-32) that said coating substance produces resulting from said deformation of said test film piece. However,

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Tsukamoto does not specifically disclose or suggest rating brittleness of said coating substance on the basis of an outcome of said detection of acoustic emissions. Barnes discloses the brittleness properties of the product were determined by measuring the acoustic emission using a Locan.RTM. analyzer, see: col. 4, lines 45-48. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Tsukamoto the techniques of Barnes because the acoustic emission (AE) technique is a method for examining the behavior of materials deforming under stress and acoustic emission may be defined as a transient elastic wave generated by the rapid release of energy within a material thereby providing the advantages to the above combination to determine effectively the brittleness of the test film in a reliable manner.

Regarding claims 2-3 and 8-9, Tsukamoto in view of Barnes discloses the load W acting on the specimen 1 is measured by the electrobalance 2 and piezoelectric actuators 11 and 12 are capable of moving the indenter 4 to any desired position on the specimen 1, see: col. 4, lines 40-42 and 48-49. The indenter 4 of Tsukamoto meets the limitation of compression head of claim 3. Furthermore, Tsukamoto discloses in Fig. 1 the apparatus includes a sample dish 130 on which a specimen 129 is securely mounted and a diamond stylus 127 for scratching the surface of the specimen 129 at a constant speed, the specimen 129 being coated with a thin film, see: col. 3, lines 67-68 and col. 4, lines 1-3.

Regarding claim 4, Tsukamoto in view of Barnes discloses wherein said acoustic emissions are detected by an acoustic emission sensor attached to said test film piece (Fig. 3 shows indenter 4 attached to the specimen 1).

Regarding claim 5, Tsukamoto discloses in view of Barnes a photonic probe (tradename and available from Photonics, U.S.A.) 7 is provided integrally with the indenter 4; Light issuing from the Probe 7 is reflected by a mirror 6 which is mounted on the sample dish 3 to return to the Probe 7 and the distance between the probe 7 and the mirror 6, i.e., the amount Δ of penetration of the indenter 4 into the specimen 1 is measured in terms of the intensity of reflection from the mirror 6, see: col. 4, lines 32-40.

Allowable Subject Matter

4. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Nakayama et al. (US Patent 6,799,472) discloses a method of and apparatus for measuring and evaluating material strength by detecting charged particles.

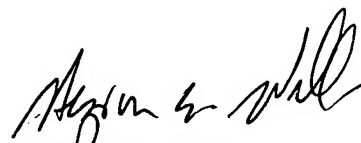
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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jacques M. Saint-Surin
January 04, 2005


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800